

REMARKS

The following remarks are responsive to the Office Action mailed May 5, 2005, wherein Claims 2-20 were rejected under 35 U.S.C. 102(b) as being anticipated by Klatt (U.S. Patent 5,243,268). Applicants thank the Examiner for the careful examination given to this application. In response to the Office Action, Applicant has amended the application. Applicant respectfully requests that the Examiner consider the foregoing amendments and the following remarks, and then passes the application to allowance.

Claims 2-20 are allowable over *Klatt*

In the Office Action, the Examiner identified *Klatt* as disclosing an electric machine with certain characteristics. By this amendment, however, Applicant has amended independent claims 2, 8, and 13 to more particularly claim his invention distinguishable from *Klatt*. In particular, each of the independent claims has been amended to recite characteristics not found in the prior art. For clarity of discussion, however, the amendment to independent claim 2 will be particularly discussed and then extended to the other claims.

As amended, independent claim 2 now recites that the claimed "energy storage gap" is "of sufficient size for causing the motor to exhibit the characteristics of an inductor." This aspect of Applicants invention is distinguishable from *Klatt*. In fact, *Klatt* requires that "its leakage inductance (*air gap*) ***should be made as small as possible.***" *Klatt* at col. 9:8-9 (emphasis added). A close review of *Klatt* reveals that it actually teaches away from Applicants claimed invention when it explains:

"Leakage inductance contributes nothing to torque development: yet, it lowers the power factor of the electric machine. Hence, in the torque producing entity of any electric machine, ***leakage inductance should be kept to a minimum.***

Unfortunately, all electric machines require an airgap between their moving and stationary bodies which is the major cause of leakage inductance for such machines. As will be shown, the electric machine system of this invention can cancel its leakage inductance."

Id. at 7:13-21 (emphasis added). Whereas *Klatt* clearly teaches the minimization of the air gap toward a minimization of inductance, the claimed invention requires quite differently.

As explained in the specification, Applicants have found that "an electrical motor has a physical ***air gap between the stator and rotor of a size sufficient*** to store magnetic energy so that the motor's coils (also "windings") in combination with the elements on which they

are disposed and the air gap *exhibit the electrical properties of an inductor*, instead of the electrical properties of a transformer.” Specification at 4 (emphasis added). This characteristic is then used to construct an efficient resonant motor as further discussed in the specification. See, for example, Specification pg. 7-8 (“Contrary to conventional practice, the motor of a resonant motor system incorporates a *rotor-stator air gap several tens of times larger than the AC induction motor*. Surprisingly, what would appear to be a high level of useless reactive (magnetizing) current is the very current which produces real load power at the shaft. In short, the reactive current, while it is indeed 90 degree out of phase with the motor "inductor" and accompanying capacitor voltages, is actually exactly in phase with the motor-generated back-emf. The high rotor-stator inductive current in the resonant motor system corresponds directly with the high real current in an AC induction motor. However, where field cancellation prevents core saturation in the AC induction motor, the resonant motor system depends on the large rotor-stator gap to prevent core saturation. As a "transformer analogue" the AC induction motor depends on field cancellation to allow high real power current and development of significant shaft power. As an "inductor analogue", the resonant motor system utilizes a large rotor-stator gap to allow large "real" current and development of significant shaft power”).

Thus, whereas Klatt teaches a minimization and a cancellation of inductance, Applicants teachings are quite different when the inductance is actually used to provide improved performance of and electric motor. Accordingly, Klatt does not anticipate Applicants’ invention as recited in claim 2. Moreover, because Klatt teaches away from Applicants’ invention, it cannot be used in combination with another reference to render obvious the presently submitted claims.

In similarly amending the other independent claims, they are allowable for analogous reasons. Moreover, because claims that depend from allowable base claims are themselves allowable, all the pending claims 2-20 are allowable over the prior art and in condition for allowance.


CONCLUSION

Because the pending claims are in condition for allowance, Applicants respectfully urge that they be passed to allowance. Such allowance is respectfully requested.

If the Examiner does not agree that the application is in condition for allowance,
Applicants request the Examiner to call the undersigned at 650-739-3939 to schedule an
interview.

Respectfully submitted,

Date: July 15, 2005


James W. Peterson 26,057
JONES DAY (Reg. No.)
2882 Sand Hill Road, Suite 240
Menlo Park, CA 94025-7064
Telephone: (650) 739-3939